

The young individuals differ considerably from the adults by the shorter form of the body, their shorter tubiform muzzle, and by the well-marked development of the teeth, of the scutes of the skin, and of the hooked spines of the scales. There is no doubt that "*C. velitaris*," Pallas, is a nearly adult form, and *C. brevispinis*, Kn., Steind., a very young form of *C. gracilis*, and that these two specific names must disappear, as well as the genus *Orthichthys* of Mr. Gill. His genus *Centriscope* (type *C. humerosus*, Rich.) is better founded as regards the physiognomy, but is not based upon any important character or any special peculiarity of organization.

Finally, in a postscript, I refer to the considerable changes which occur in some groups of marine fishes which I have not had the opportunity of examining in this memoir, but which have been elucidated by other authors, or will be so, I hope, hereafter by myself. I may cite, for example, the metamorphoses (1) of the Pleuronectidæ, which have especially been elucidated by MM. Jap. Steenstrup and Alex. Agassiz; (2) of certain Gadoids; the *Couchie*, notwithstanding what may have been said, are the young of various species of *Motella*, and *Hypsiptera argentea* the young form of a Phycid; (3) of the *Macruri*, *Ophidia*, and *Trachypteri*, which have been elucidated by Mr. Emery; (4) of the Sunfish (*Mola rotunda* and *Ranzania truncata*), of which I hope soon to be able to give an explanation conjointly with M. Steenstrup; and, lastly, (5) of *Ansonia Cuvieri*, Risso (*Luvarus imperialis*), of which M. Giglioli has demonstrated that *Diana semilunata*, Risso (*Astrodermus coryphænoides*), is the young form. This last is certainly one of the most remarkable of the transformations presented by the family of the Scomberoids, otherwise so rich in examples of this kind, to the knowledge of which I have also made some contributions in this memoir.

XI.—*Notices of British Fungi*. By the Rev. M. J. BERKELEY, F.R.S., and C. E. BROOME, Esq., F.L.S.

[Continued from ser. 5, vol. iii. p. 212.]

[Plate III.]

1833. *Agaricus* (*Amanita*) *nitidus*, Fr.

Mattishall, Rev. J. M. Duport.

Several specimens have been forwarded, some exactly agree-

ing with the definition of Fries in the thick indurated angular warts, while others approach so near to *A. mappa* that it is difficult to distinguish them.

1834. *A.* (*Lepiota*) *granulosus*, Batsch, var. *rufescens*.

A curious form was found near Bristol by Mr. Bucknall, quite pure white at first, then partially turning red, and in drying acquiring everywhere a rufous tint.

1835. *A.* (*Lepiota*) *seminudus*, Lasch.

Clifton, Mr. Bucknall. Coed Coch, 1880.

1836. *A.* (*Lepiota*) *Bucknalli*, B. & Br. Ovidus, pileo e campanulato convexo, albo, stipiteque deorsum pulvere lilacino conspersis, lamellis albis marginem vix attingentibus.

Pileus nearly 1 inch across; stem 3 inches high, dilated at the base. A doubt has been suggested whether this may not be Quélet's var. *lilacinus* of *A. seminudus*; but as he does not mention the strong gas-tar smell, they cannot be the same. The spores in this species are much longer, $\cdot 00027$ by $\cdot 0001$, in *A. seminudus* $\cdot 00015$ by $\cdot 00007$ inch.

1837. *A.* (*Armillaria*) *focalis*, Fr.

On bare ground under old laurel trees. Coed Coch.

Pileus 4 inches across, pale fawn-coloured, darker above, slightly virgate, *extreme* margin involute; stem 5 inches high, $1\frac{1}{2}$ inch thick at base, variously lacerated; mycelium white, fibrillose, ring very broad (to which the specific name alludes), superior; odour farinaceous; substance tender. Almost agreeing in dimension with the var. "*Goliath*," and certainly one of the finest British species.

1838. *A.* (*Tricholoma*) *stans*, Fr.

This species was formerly called by Fries *A. pessundatus*, and was found of large size at Coed Coch. The figure in the 'Icones' marked "*pessundatus*" is now referred to *A. stans*. The true *A. pessundatus* was sent by Mr. Renny from Lucerne.

1839. *A.* (*Tricholoma*) *guttatus*, Schæff.

This curious species was found at Downton by Mr. Howse, who brought an excellent drawing to the meeting at Coed Coch.

1840. *A.* (*Tricholoma*) *tumidus*, P.

Coed Coch. Exactly according with Krombholz's figure.

**A.* (*Tricholoma*) *lixivius*, Fr.

There is no doubt that Sowerby's *A. compressus* is this species.

1841. *A.* (*Clitocybe*) *hirneolus*, Fr.

Coed Coch, Oct. 1877.

1842. *A.* (*Clitocybe*) *amarus*, Fr.

Holm Lacy, Mr. Perceval, 1878.

1843. *A.* (Clitocybe) *pithyophilus*, Fr.

Coed Coch, 1880.

1844. *A.* (Clitocybe) *cryptarum*, Letellier. Dense cæspitosus, pileis subconicis depresso-flocculentis brunneis maculatis; stipitibus albis substriatis virgatis sursum attenuatis plus minus compressis anguste fistulosis; lamellis angustis arcuatis subdecurrentibus albis.

Coed Coch. On sawdust. Habit that of *A. tumulosus*. Pilei varying much in size, according to the denseness of the clusters. Inodorous, insipid; stem mottled within.

1845. *A.* (Clitocybe) *decastes*, Fr.

Coed Coch. On sawdust. Agreeing closely with the figure of Fries in the 'Icones;' but we are doubtful whether what we find is not an advanced stage of *A. cryptarum*—a matter which requires future observation.

1846. *A.* (Clitocybe) *Trogii*, Fr. (*A. suaveolens*, Trog).

Coed Coch. The colour approaching that of *A. metachrous*.

1847. *A.* (Clitocybe) *senilis*, Fr.

Coed Coch, 1880.

1848. *A.* (Collybia) *macilentus*, Fr.

Coed Coch, 1880.

1848 bis. *A.* (Collybia) *stolonifer*, Jungh.

Perth, Dr. Buchanan White.

1849. *A.* (Mycena) *adonis*, Bull.

Garthewin, Mr. Brownlow Wynne. The scarlet form.

1850. *A.* (Omphalia) *hydrogrammus*, Fr.

Coed Coch, 1880.

1851. *A.* (Omphalia) *infumatus*, B. & Br. Pileo obtuso nec membranaceo e viridi infumato; stipite tenui, luteo; lamellis paucis latis decurrentibus distantibus luteis.

On bark. Amongst moss. Garthewin, Mr. Brownlow Wynne. Pileus 2 lines across; stem 1 inch high, not a line thick, dilated at the base, tomentose, especially below; gills about twelve, with smaller intermediate. Allied to *A. umbelliferus*, but quite distinct from all its varieties.

1852. *A.* (Omphalia) *offuciatu*s, Fr.

Coed Coch, 1880.

1853. *A.* (Omphalia) *abhorrens*, B. & Br. Odor stercorarius; pileo umbilicato brunneo; stipite gracili concolori; lamellis decurrentibus.

Coed Coch. On lawn with *A. retostus*.

**A.* (Pleurotus) *ulmarius*, Bull.

A specimen was found in the Coed-Coch forage, agreeing with *A. tessulatus*, Bull. The spots arising from the presence of a species of *Fusisporium*; the same appearance, arising from the same cause, occurred in *Agaricus orcella*.

1854. *A. (Pleurotus) laurocerasi*, B. & Br. Ostreæformis, pileo sulcato brunneo, cute tenuissima; stipite obsolete, lamellis venoso-connexis; sporis ovatis.

On the naked trunk of a laurel. Coed Coch, Oct. 14, 1879.

Pileus rather more than an inch across; the cuticle is extremely thin, and gives way at the furrows so as to expose the substance of the pileus. Spores .0008 millim. long.

1855. *A. (Pleurotus) palmatus*, Bull.

The spores of this species are pale ochre-coloured, .0004 inch in diameter; it has the same right to be placed in *Pleurotus* as the rosy-spored *A. euosmus*.

1856. *A. (Pluteus) spilopus*, B. & Br. Nanus, pileo brunneo ruguloso; stipite flexuoso atro-punctato; sporis globosis lævibus.

C. E. Broome. Allied to *A. nanus*.

1857. *A. (Leptonia) aethiops*, Fr.

Coed Coch, 1880.

1858. *A. (Eccilia) atrides*, Fr.

Hereford. This is not the plant figured by Quélet.

1859. *A. acetabulosus*, Sow.

This curious species has never been satisfactorily elucidated. The occurrence of an allied form from Swan River necessitates the proposition of a new section (*Acetabularia*) analogous to *Volvaria* and *Chitonina*. The spores in the original specimen of Sowerby, now (with the drawing) in the British Museum, are clay-coloured.

1860. *A. (Pholiota) erebius*, Fr.

This is clearly the same species with *A. denigratus*, the spores of which are brown.

1861. *A. (Pholiota) ombrophilus*, Fr.

Coed Coch, in great abundance. It has also been sent to Mr. Phillips.

1862. *A. (Pholiota) subsquarrosus*, Fr.

Found in Herefordshire by Mr. Howse, who brought specimens and a drawing to Coed Coch.

1863. *A. (Pholiota) tuberculosus*, Fr.

On Sawdust, Coed Coch (and therefore not rooting into wood as in the typical form), together with the ringless form figured by Schæffer.

1864. *A. (Pholiota) curvipes*, Fr.

On sawdust. Coed Coch, 1879-1880.

1865. *A. (Inocybe) muticus*, Fr.

Coed Coch. In great abundance, 1880.

1866. *A. (Inocybe) dstrictus*, Fr.

Coed Coch, 1880.

1867. *A.* (*Hebeloma*) *mesophæus*, Fr.

Coed Coch, 1880.

1868. *A.* (*Hebeloma*) *nudipes*, Fr.

Coed Coch, 1880. M. Cornu also found specimens exactly agreeing with Kalchbrenner's figure.

1869. *A.* (*Hebeloma*) *firmus*, P.

Coed Coch, 1880.

1870. *A.* (*Naucoria*) *hamadryas*, Fr.

Specimens gathered by Mr. Plowright at Brandon appear to belong to this species, but have the fishy odour of one or two *Nolaneas*.

1871. *A.* (*Naucoria*) *abstrusus*, Fr.

On sawdust. Coed Coch, 1880.

1872. *A.* (*Naucoria*) *tenax*, Fr.

On a grassy walk. Coed Coch, 1879. Spores ovate, even.

1873. *A.* (*Naucoria*) *rubricatus*, B. & Br. Cæspitosus; ex albo rubricatus; pileis pusillis demum planiusculis, stipitibus gracilibus.

On decayed twigs or petioles. Hereford, Miss Ruth Berkeley, 1878.

1874. *A.* (*Psalliota*) *comptulus*, Fr.

Coed Coch, 1880. In several places.

1875. *A.* (*Stropharia*) *inunctus*, Fr.

A pale form occurred at Sibbertoft, which we should have been inclined to refer rather to *A. albocyaneus*; but the cuticle peeled off with the greatest ease, and after a heavy rain it dripped with gelatinous matter. It resembled greatly Fries's figure of *A. torpens*, var.

1876. *A.* (*Hypholoma*) *appendiculatus*, Bull., var. *lanatus*.

A curious form occurred in a hollow apple-tree at Sibbertoft, densely woolly when young, traces of the woolly coat remaining at the apex when the pileus is fully expanded.

1877. *Coprinus narcoticus*, Batsch.

Shewsbury, W. Phillips. Smell highly disagreeable.

1878. *Cortinarius* (*Myxacium*) *salor*, Fr.

Coed Coch. In considerable abundance, but rather decayed. The base of the stem was strangely swollen, showing the original universal veil halfway up the swelling, which ends abruptly. The head still covered with the bluish slime.

1879. *C.* (*Myxacium*) *illibatus*, Fr.

Coed Coch. A single specimen only.

**C.* (*Dermocybe*) *myrtilinus*, Fr.

Coed Coch. At first sight resembling *A. nudus*, but known by the colour of the spores and the veil.

1880. *C. (Telamonia) impennis*, Fr.

Amongst dead leaves. Bomere, W. Phillips. Mr. Houghton sent from Tibberton Firs a species exactly intermediate between this and the common *C. torvus*.

1881. *C. (Telamonia) flabellum*, Fr.

Coed Coch, 1880. A single specimen.

1882. *C. (Telamonia) paleaceus*, Fr.

Coed Coch, Hereford, &c. Apparently a very variable species.

1883. *C. (Hydrocybe) jubarinus*, Fr.

Coed Coch. Abundant early in 1879.

1884. *C. (Hydrocybe) fasciatus*, Fr.

Coed Coch. Umbo very acute.

1885. *Hygrophorus sciophanus*, Fr.

Coed Coch. Small specimens. Gigantic specimens of this occur near Geneva, as found by Mr. Renny, with a darker form, of both of which we have excellent drawings.

1886. *H. subradiatus*, Schun.

Salop, W. Phillips, Esq.

1887. *Lactarius intermedius*, Krombh.

Norfolk, the Rev. J. M. Du Port and Mr. Plowright.

The specimens agree with Krombholz's plant, except that when fresh and dried they are more or less zoned as in *L. insulsus*.

1888. *Russula Queletii*, Fr.

Very common, confounded probably with *R. rubra*.

1889. *Marasmius urens*, Fr.

A curious form with the pileus becoming very dark when fully grown, and exceedingly acrid, occurred in a hothouse at Coed Coch in profusion for many weeks in September and October, with the white form of *A. cepæstipes* and *A. meleagris*.

**Lentinus fimbriatus*, Curr.

On a stump. Edenbridge, J. Renny, Aug. 1879.

1890. *Polyporus (Resupinati) umbrinus*, Fr.

Knowle Park, Burchell.

1891. *P. (Resupinati) reticulatus*, P.

Hereford, 1878.

1892. *Dædalea aurea*, Fr.

Hereford. Imbricated, the veins for the most part straight and radiating.

**Hydnum rufescens*, Fr.

Dolgelley, Miss Ruth Berkeley. Differing from *H. repandum* in having the pileus distinctly tomentose, in this case studded with little villous warts.

1893. *H. acre*, Quélet.

Forres, Rev. J. Keith, 1878.

**Thelephora intybacea*, P.

Glamis, Rev. J. Stevenson.

1894. *Cyphella Bloxami*, B. & Phill. Alba floccoso-membranacea, disco flavescente crenato-lobato; floccis lævibus; sporophoris turbinatis.

On *Ulex*, Twycross, Rev. A. Bloxam.

Spores $\cdot 0003$ – $\cdot 0004$ inch. Spores terminating slightly branched threads.

1895. *Clavaria canaliculata*, Quélet.

Coed Coch. In several places; the same species was sent by Mr. Renny from Lucerne.

**Geaster limbatus*, Fr.

Garthewin, Denbighshire, Mr. Brownlow Wynne.

1896. *Myxosporium dracenicola*, B. & Br. Aurantium, sporis ovatis.

On leaves of *Dracæna*, spores $\cdot 00035$ inch long, $\cdot 0002$ wide. On the same leaves, scattered in the form of minute black specks, was a *Diplodia* with oblong uniseptate spores, slightly constricted in the middle, colourless, and probably immature, $\cdot 0006$ – $\cdot 0007$ long. These are doubtless states of more perfect fungi, but are mentioned here because they are connected with a disease which seems fatal to *Dracæna*.

1897. *Glæosporium cytisi*, B. & Br. Maculis albis quandoque rubro-cinctis, peritheciis minutis, sporis minutis ellipticis.

On *Cytisus laburnum*. Glamis, Rev. J. Stevenson.

1898. *Protomyces melanodes*, B. & Br.

On leaves and inflorescence of *Phlox* (Gard. Chron. Sept. 1879).

1899. *Cryptosporium turgidum*, B. & Br. Peritheciis globosis prominulis obtusis; sporis curvis utrinque acutis, obscure triseptatis.

On ash, Rev. A. Bloxam. Spores $\cdot 0008$ long.

1900. *Sporonema phacidioides*, Desm.

On leaves of *Medicago maculata*, Wimbledon.

1901. *Leptothyrium asterinum*, B. & Br. Maculæforme incrassatum margine rubro, sporis oblongis curvatis binucleatis, $\cdot 001$ – $\cdot 0015$ long.

PLATE III. fig. 1. Spores and flocci, highly magnified.

On *Aster tripolium*. Fleetwood, Rev. A. Bloxam.

1902. *Septoria violæ*, Rab.

On leaves of *Viola canina*, Fergusson.

1903. *Gymnosporium lateritium*, B. & Br. Effusum, lateritium, sporis obovatis breviter pedicellatis.

On wych elm. St. Catherines, C. E. Broome. Looks like a stratum of finely powdered brickdust. Spores $\cdot 0003$ long.

1904. *Selenosporium tubercularioides*, Cd.

On raspberry. Orton Wood, Rev. A. Bloxam.

1905. *Uredo plantaginis*, B. & Br. Maculis pallidis, pustulis minutis apice tantum ruptis; sporis ellipticis luteis.

On *Plantago*, Woodnewton. On *P. lanceolata*, Dolgelley, Ralfs.

1906. *Isaria floccosa*, Fr.

On a caterpillar. Milton, Norths., Mr. J. Henderson.

1907. *Fusarium equiseti*, Desm.

Oswestry. Spores at first $\cdot 0002$ long, at length $\cdot 0015$.

PLATE III. fig. 2. *a*, flocci with young spores; *b*, spores, young and old.

1908. *T. salicinum*, Cd.

On willow. Twycross, Rev. A. Bloxam.

1909. *Monotospora elliptica*, B. & Br. Punctiformis, sporis ellipticis binucleatis quandoque uniseptatis.

On herbaceous stems.

PLATE III. fig. 5. Flocci with spores, highly magnified.

1910. *Helminthosporium molle*, B. & C., Notices of new Am. Fungi, p. 113.

On *Ilex*. Powerscourt.

1911. *Chalara longipes*, Strauss.

On old walnuts &c., Dr. Buchanan White. We cannot identify this with any of the species figured by Saccardo.

1912. *Aspergillus griseus*, Lk.

Kings Cliff. On various decaying substances.

1913. *Penicillium saponis*, B. & Br. Nigrum, monilibus e cellulis 2-3 oriundis; sporis globosis.

On soap, Rev. J. Hort.

PLATE III. fig. 3. Plant, highly magnified.

1914. *P. abnorme*, B. & Br. Candidum, floccis tenuibus in corpus turbiniforme desinentibus, sporis minutissimis.

On leaves of *Trientalis europæa*.

PLATE III. fig. 4. Flocci with their receptacles and spores, highly magnified.

1915. *Zygodesmus terrestris*, B. & Br. Fuscus, sporis subellipticis vel citrififormibus, primum lævibus, demum asperulis.

On bare chalk. Crundall, Kent. We have also had the same from Dr. Montagne, marked Haddous. Forming a thin brown stratum.

1916. *Peronospora dipsaci*, Tul.

On *Dipsacus sylvestris*.

1917. *Ramularia veronicae*, B. & Br. Tota alba, floccis brevibus, sporis oblongis angustis deorsum leviter attenuatis.

On *Veronica agrestis*, Sibbertoft. This and *Peronospora*

obliqua, Cooke, clearly belong to the genus *Ramularia* as revived by Saccardo.

PLATE III. fig. 7. Flocci and spores, highly magnified.

1918. *Coccotrichum brevius*, B. & Br. Cæspitulis subglobosis rufis, floccis parce ramosis articulatis, articulis brevibus, sporis ellipticis granulatis.

Leigh Wood, on bark, C. E. Broome.

Of a rich red-brown; when placed in water it tinges it with the same colour. When young the tufts are distinct; they afterwards become confluent. When dry they assume a buff or ferruginous tint.

PLATE III. fig. 8. *a*, plant, natural size; *bb*, flocci with heads of spores, magnified; *c*, spores, highly magnified.

1919. *Polyactis capitata*, B. & Br. Tota alba, floccis ex articulis tumidis basi sitis oriundis trifidis bifidisque, sporis obovatis.

On *Cheiranthus*, Sibbertoft. Spores $\cdot 001$ long.

1920. *Stachylidium trabeum*, B. & Br. Pallidum, floccis parce ramosis, apicibus 3-4fidis, sporis globosis.

On an old beam. Kings Cliff, Nov. 15, 1864.

PLATE III. fig. 6. Flocci with spores, highly magnified.

1921. *Helvella Klotschei*, Cooke.

A single specimen in the Fernery, Coed Coch, Mrs. Lloyd Wynne, which was submitted to Dr. Cooke for identification.

* *Verpa digitatiformis*, P.

With *Morchella gigas*, M., and the following. In some of the specimens the head is minutely reticulated, as it has also occurred to Mr. Broome.

1922. *V. speciosa*, Vittadini.

Coed Coch. Agreeing in size and colour with Vittadini's figure; but the sporidia are not oblong, so that there is some doubt about the species.

1923. *Dermatea cinnamomea*, DC.

On maple. Leigh Wood, Dec. 1878.

Sporidia $\cdot 0015$ - $\cdot 00045$ long, finely granulated.

1924. *Cenangium Rubi*, Dub.

Glamis, Rev. J. Stevenson.

1925. *Eurotium lateritium*, Lk.

Dolgelley, J. Ralfs.

1926. *Sphaeria Stevensoni*, B. & Br. Nigra, fragilis, sparsa, subglobosa, glabra; sporidiis oblongis, 2-3-septatis.

On dead wood. Glamis, Rev. J. Stevenson. Sporidia $\cdot 0002$ long. Under the lens it splits with pressure into several fragments.